

## Summer 2018 Organic Chemistry II

### Instructional Staff:

Role	Name	Office Hours	Location
Lecturer	Dr. John A. Colapret	TTh 10:30-11:30am	BIO 301
TAs	Rahul Kadakia Chinh Ngo	Wednesday 1-2 PM Monday 2-3pm	WEL 2.122 WEL 2.122

**Course E-Mail :** All e-mail related to CH 320-328N should be sent to the following address:

[jcolapret@cm.utexas.edu](mailto:jcolapret@cm.utexas.edu)

**Note:** Dr Colapret does not use any social media-all communication with Dr Colapret will be conducted through the official UT email account above.

### Course Web Site:

To reach the web site for CH 320/328 N, point your browser to the following URL:

<http://colapret.cm.utexas.edu/courses/>

The web site will be an integral component of this course! It will be updated regularly with course announcements, lecture notes, homework assignments, and exam information.

Important updates will be announced in lecture, but you should plan to visit the web site regularly so you don't miss anything.

**Piazza:** This is an open forum, online, discussion group that we use to post Q&A for the whole class. Anyone can post & answer questions, but Dr Colapret also posts & answers questions. It is a good alternative to office hrs:

[https://piazza.com/utexas/summer2018/ch320\\_328n/home](https://piazza.com/utexas/summer2018/ch320_328n/home)

### Course Materials:

Textbook (required): Brown, Iverson, Anslyn *Organic Chemistry*, 8<sup>th</sup> Ed., Brooks/Cole, 2016.

Study Guide (recommended): Iverson & Iverson, *Student Study Guide and Solutions Manual for Organic Chemistry*, 8<sup>th</sup> Ed., Brooks/Cole, 2016. Purchase of a molecular models kit is also highly recommended. Although use of models will not be allowed during exams, most students find them to be extremely helpful when first learning how to visualize the 3-dimensional structures of organic molecules.

## Summer 2018 Organic Chemistry II

### Prerequisites and Co-requisites:

The development of organic chemical structure, nomenclature, and reactivity. Only one of the following may be counted: Chemistry 610A, 310M, 618A, 318M. Prerequisite: Chemistry 302 with a grade of at least C-, and credit or registration for Chemistry 204 or 317.

### Adds, Drops and Withdrawal:

**July 17<sup>th</sup>** : Last day of the official add/drop period. After this date, changes in registration require the approval of the department chair and usually the student's dean.

Last day an undergraduate student may add a course except for rare and extenuating circumstances. Last day to drop the course for a possible refund.

**July 19<sup>th</sup>** : Last day to drop the class without possible academic penalty.

**Aug 3<sup>rd</sup>** : Last day a Q drop can/will be assigned by the instructor. You will need the approval of Dr. Colapret, your academic adviser, and your college's dean to drop the course at this point. After this date, withdrawal from the course requires a substantial non-academic reason, and can only be approved by your college's dean.

**Aug 17<sup>th</sup>** : Last Class Day---**Last exam for the course; 8-10 am; WEL 2.122.**

***All questions related to enrollment in the course should be directed to the Chemistry Lower Division Office in BIO 404.***

**Attendance:** Although attendance will not be monitored, the lectures are the heart of this course. Attendance at all lectures is expected and all students will be responsible for information and announcements presented in lecture. **Cell phones, pagers, watch alarms, etc. must be turned off or silent during all lectures and examinations.**

**Office Hours:** Please take advantage of office hours if you have any questions about the course content (lecture notes, textbook readings, homework assignments). Although e-mail has become increasingly important as a means of communication in modern society, it does not provide a convenient forum to discuss a visual subject like organic chemistry. You'll need to visit us in person to have your chemistry questions answered so that we can draw structures! The complete schedule of TA office hours will be published as soon as the schedules are ready.

## Summer 2018 Organic Chemistry II

### Homework:

The exams in this class require that you solve problems. The best way to prepare for the exams, then, is to work as many practice problems as possible. To encourage this good habit, two different types of homework will be assigned on a regular basis:

(1) Several homework problems from the textbook will be suggested at the beginning of the semester. You should attempt to work these problems after you study your lecture notes. *Suggested problems from the textbook will not be collected or graded*, but you'll want to work through as many of them as possible so that you can develop the analytical skills you'll need in order to do well on the exams. Students who make an effort to work through and understand the textbook problems perform significantly better on exams than students who do not.

(2) **There will be homework sets available for "credit"**. They are in objective format, & will be electronically graded within the Canvas system. They are in the "assignments" section of your course menu. There will be 5 sets over the term; the due dates will be marked in the instruction section of each set. The **average of all five** will count 5% of the overall grade. If a HW is not submitted, then it counts as 0. The "Credit Homework" is open book and open note. Please feel free to discuss the homework problems with other students in the class, but **the work you submit should be your own**. The TA's will be able to answer general questions about the related chemistry, but they will not answer specific questions about the graded homework assignments.

### Major Exams:

Three major exams will be given during the semester. These exams are scheduled during the class period, & will be held in the lecture hall (WEL 2.122)

Exam*	Date	Location
Exam #1	Friday July 27	WEL 2.122
Exam #2	Friday Aug 10	WEL 2.122
Exam #3	Friday Aug 17	WEL 2.122

\*The exam will emphasize material covered in lectures. Organic chemistry is a cumulative subject, however, so you will still be expected to know the material from earlier in the course.

## Summer 2018 Organic Chemistry II

All exams will be “closed book”, and you will not be allowed to use molecular models, calculators, books, or notes. Exams written in pencil will not be eligible for re-evaluation. Answers written in pencil with ink overlay will not be graded. Answers written in red ink will not be graded.

**Please bring your valid UT ID card to all exams, since you will need to show it when attendance is taken during the exam.** Exams will commence promptly at the stated time. Students arriving after the first exam has been turned in will not be allowed to take the exam!!! Instances of academic dishonesty will be handled according to university policy, and will likely result in failure of the course. Each major exam will be worth a total of **100 raw points** which in turn will be converted into a standard T-score. **The T-score represents your “curved” grade on the exam, on a 100 point scale.** T-scores are calculated using the following formula:

$$T = [(x-X)/s] \cdot 10 + 70$$

where  $x$  = your raw percentage (out of 100)

$X$  = the raw percentage average for the class =  $\sum x/N$

$N$  = number of exam scores recorded

$s$  = standard deviation =  $[\sum (x-X)^2 / (N-1)]^{1/2}$

Use of standard T-scores allows an effective averaging of grades without introducing a bias in favor of tests with the greatest standard deviations. Since it is based on a normal (Gaussian) distribution, it generally represents the fairest way of grading. (Nearly all national exams such as the SAT, MCAT, and GRE use a similar form of Standard T-scores.)

### \*\*\*\*\*Important Notice\*\*\*\*\*

**In general, using T-scores increases everyone's grades compared to using absolute percentages. Nevertheless, we will keep track of your absolute percentage scores on every test. If your absolute percentage is ever higher than your T-score, we will use the absolute percentage score for your course grade calculation. No grade will be lowered by using a curving system.**

## Summer 2018 Organic Chemistry II

### **Exam File and Keys:**

Answer keys for homework and exams will be posted on Canvas, **after** the deadline for submitting the assignment has passed.

### **Conflict Exams:**

Only those students having an excusable, documented conflict are eligible to take a make-up exam. **An organizational meeting or a job is not an excusable conflict!!!** If you have a conflict with one of the exam dates, please notify Dr. Colapret.

### **Excused Absences:**

Failure to take a midterm exam will result in an automatic F (or, in the case of justifiable excuse, an X) being assigned for the course. Work schedules, family vacations, weddings, etc. are not valid reasons to receive an excused absence. Excused absences will require appropriate documentation.

### **Students with Special Needs:**

Any student needing extra time, a reduced distraction environment, aids, etc. for exams is required to sign up, in advance, by going to <http://www.cm.utexas.edu/testing>. A letter of documentation of special needs must be furnished by the Dean of Students' office before this deadline; otherwise we may not be able to arrange for suitable accommodations. For more information, please contact the Office of the Dean of Students at 471-6259, 471-4641 TTY.

### **Grading Policy:**

Your final course grade will be calculated as a **weighted** numerical average, on a 100 point scale, as described below. All three exams scores will count. T-scores will be used in the calculation of your final weighted numerical average.

#### **Weight Graded Item (max. score = 100)**

- 35% Exam 3
- 30% Exam 2
- 30% Exam 1
- 5% Graded homework

## Summer 2018 Organic Chemistry II

Remember, if your raw percentage score for any exam is higher than your T-score for that exam, the raw percentage score will be used for the calculation of your grade. Also note that the T-score for each exam represents your curved grade for that exam. Since individual exam grades are curved, no additional curve will be applied at the end of the semester.

The following conversion table will be used to determine final course letter grades\*:

**A range:**  $90.00 \leq T$

**B range:**  $80.00 \leq T \leq 89.99$

**C range:**  $70.00 \leq T \leq 79.99$

**D range:**  $60.00 \leq T \leq 69.99$

**F range:**  $T < 60.00$

\*Missing two midterms or the final exam without a documented, valid excuse will automatically result in a failing grade.

Please note that letter grades in this course are based performance of the work you submit. You **earn** the grade; I do not give the grade. Grade boundaries do need to be established, and a consequence is that some students will finish with a “borderline” grade. Final grades assigned according to the scheme described above will indeed be final.

### **Re-evaluation Policy:**

Requests for major exam re-grades must be brought to Dr Colapret. Please provide a clear and concise explanation of the perceived problem. To demonstrate that you have reviewed the “official” answer key, you will also be asked to staple a copy of the relevant page(s) from the posted answer key. Re-grades will not be considered for exams written in pencil, for questions answered in red ink, or for questions that refer to “see back of page” or that give similar instructions to graders. Re-grades will not be considered for less than a 5 raw point change, except for mistakes in addition by graders. Do not write on the exam itself, as submitting an altered exam for a re-grade is considered to be cheating and will be treated as such! (A random sample of exams will be photocopied before graded exams are returned.) *A re-grade of the entire exam may result in a lower score as well.* There will be no re-grades possible for the final exam. Dr. Colapret will look carefully at the final exams of all students who end up reasonably close (generally within 2 percentage points) to the final letter grade boundaries to determine if each exam was graded correctly, according to the instructions.

## Summer 2018 Organic Chemistry II

### **Academic Dishonesty:**

We expect each of you to conduct yourselves honorably. Students who violate the University rules on scholastic dishonesty are subject to disciplinary penalties including the possibility of failure in the course and dismissal from the University. ***The university policies on scholastic dishonesty will be strictly enforced.***

### **Emergency Evacuation:**

*The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, <http://www.utexas.edu/safety/>*

1. Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
2. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
3. Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
4. In the event of an evacuation, follow the instruction of faculty or class instructors.
5. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.

### STUDY GUIDE AND TIPS FOR ORGANIC CHEMISTRY

Organic chemistry will be challenging and difficult, even for the brightest students. In this course, you will develop analytical (reasoning) thinking skills to solve organic problems. This is an acquired skill, which take time to develop. Although it will require some memorizing of facts, memorization alone will not be sufficient. You must apply these tools, in an analytical fashion to solving organic problems. Follow these important guides for you to be successful:

1. **DO NOT FALL BEHIND.** There is a large volume of material to be covered and each concept is built upon the previous one; this means that the material is cumulative. Get into the habit of reviewing each day's lecture and the previous days lecture; you will see how the whole is related to the parts. **A good way to do this is to re-copy your class notes.** You can add material and other hints and you will quickly recognize things you do not understand. Ask for help that day!
2. **OUTLINE THE TEXT.** This sounds like it would require too much time. However, you will be reading the textbook anyway, so an outline is an effective way to condense the material and merge it with your class notes. A complete outline will save you hours of study time when you are reviewing for exams.
3. **UNDERSTAND THE BASICS.** All of chemistry is governed by the basic laws of physics and mathematics. We will not be dealing with the high levels of math in this class, but the results of the calculations are simplified to drawings of structures. Most reactions can be understood by attaching positive "pieces" (electrophiles) to negative "pieces" (nucleophiles). Regardless of the topic, try to identify the basic underlying principle. This approach will always be presented in the lecture.
4. **DEVELOP YOUR ANALYTICAL THINKING.** This is an acquired skill; all of us have had to learn it. One of the best ways to develop this cognitive process is to solve as many problems as you can. Homework sets (for graded credit) will be assigned, but all the problems at the end of the chapters deserve attention. Some of those will appear on the major exams.
5. **BRAIN MAINTENANCE.** This material is intense and you can only absorb a finite amount of material in any one study session. You have other courses to study as well. Arrange a daily schedule so that you mix in a non science course with your science courses; take a study break at least every 2 hrs; exercise and eat balance meals, your brain requires oxygen and glucose to function properly; get plenty of sleep; if you plan to be up late, take a nap in the late afternoon. A certain amount of school (course) anxiety will be natural, but your best defense against it will be thorough preparation.



## Summer 2018 Organic Chemistry II

### Course Outline

This is a continuation of organic chemistry- the first semester background is the minimum knowledge required for this class. The order in which we will cover the rest of the material is reflected below:

**Chapter 13: Nuclear Magnetic Resonance Spectroscopy**

**Chap 15: Introduction to Organometallic Compounds**

**Chap 16: Aldehydes and Ketones**

**Chapters 17 & 18 Carboxylic Acids and Carboxylic Acid Derivatives**

**Chapter 19 Enolates and Enamines**

**Chapter 20 Conjugated  $\pi$  Systems and pericyclic reactions**

**Chapter 21 & 22: Benzene, Aromaticity & reactions of aromatic systems**

**Chapter 23 Amines**

**Chapters 25–28, selected sections Biological Molecules**

*A specific listing the topics will be posted, and updated to the WEB site, under the "Topic Guide" link.*